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ABSTRACT

A study examined the relationship of the frequency of viewing sexual content on television and the sexual activity among a sample of adolescents. Approximately 600 junior high school students filled out a questionnaire in their homes. Eight items measuring frequency of sexual intercourse and the number of partners formed one factor, which served as the dependent variable. Two measures of the frequency of viewing sexually oriented television programs served as the primary independent variables. One index measured total exposure to televised sexual content; the other measured selectivity through a ratio of total sexual content to total viewing. It was expected that television viewing would be indirectly related to frequency of sexual behavior and would be more directly related to perceived probability and liking for a set of possible positive consequences of sexual activity. While these expected consequences were predictive of subsequent sexual activity, they were related to television viewing for only the black male subgroup. Both measures of the frequency of sexually oriented television viewing were related to the frequency of sexual activity for blacks but in opposite directions for the two television measures and between males and females. While the results are less than straightforward, they suggest real relationships. (Author/HTH)

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TELEVISION AND ADOLESCENT SEXUAL BEHAVIOR

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ABSTRACT

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This study examines the relationship of the frequency of viewing sexual content on television and the sexual activity among a sample of adolescents. Students from one junior high school in an urban area in North Carolina filled out questionnaires in their homes. Eight items measuring frequency of sexual intercourse and the number of partners formed one factor which served as the dependent variable. Two measures of the frequency of viewing sexually-oriented television programs served as the primary independent variables. One index measured total exposure to televised sexual content; the other measured selectivity through a ratio of total sexual content to total viewing.

It was expected that television viewing would be indirectly related to frequency of sexual behavior and would be more directly related to perceived probability and liking for a set of possible positive consequences of sexual activity. While these expected consequences were predictive of subsequent sexual activity, they were related to television viewing for only the black male subgroup. Both measures of the frequency of sexually-oriented television viewing were related to the frequency of sexual activity for blacks but in opposite directions for the two television measures and between males and females. While the results are less than straightforward, they suggest real relationships, and raise a number of interesting and important questions for further research.

Television and Adolescent Sexual Behavior

Over a decade ago, the Commission on Obscenity and Pornography published a report (1970) which concluded that, while exposure to pornography temporarily arouses both men and women, it does not substantially change established patterns of sexual behavior. The Commission also concluded that erotic materials are not a significant factor in causing crime and delinquency.

Apparently, to a large extent as a result of this report of insubstantial effects, researchers in the interim have not shown much interest in continuing the study of the consequences of exposure to sexual content in the media. Feminists have continued to argue, however, that much of the pornographic fare available and even some of the less graphic television portrayals degrade women and female sexuality (McCormack, 1978; Longino, 1980). Recently other groups have become more vocal in their opposition to sexual portrayals in the mass media and have called for boycotts of advertisers of television programs high in sexual content. The Rev. Donald E. Wildmon, founder of the National Federation for Decency and coordinator of the Coalition for Better Television, for example, believes that more frequent use of sex, violence and profanity on television will lead to wholesale rejection of Christian morals and values (Conservative Digest, 1981).

Some of the research that has been conducted following the Commission's report suggests that the fears of feminists and others may not be unfounded. Zillman and Bryant (1982), for example, found that undergraduate men who were exposed to large doses of pornography tended to trivialize rape by recommending a shorter sentence for a convicted rapist. These men also scored highest on a measure of sexual callousness toward women. Malamuth and Check (1981) found in

a field experiment that men who had seen the sexually violent movie "Swept Away" increased their acceptance of interpersonal violence against women. Other studies (Donnerstein, Donnerstein and Evans, 1975; Zillman, 1979; Baron and Bell, 1977) have shown that certain types of erotic materials can increase aggressive behavior. Donnerstein and Berkowitz (1981) found that regardless of whether the female victim's reaction to erotic aggression was positive or negative, males were more aggressive toward female targets after viewing sexually aggressive films.

While the sex portrayed on television is, in general, less explicit and less violent than in the films used in these experiments, it is interesting to note that some of the films used as stimuli have now been shown on cable television's X-rated and pay channels. And studies of regular network television content have found that while actual coitus is rarely portrayed, the subject of sexuality is seldom absent from and is becoming increasingly prevalent in most entertainment programming (Sprafkin and Silverman, 1981). Sexual conquest is generally portrayed as a desirable goal of interpersonal relationships (Greenberg, Abelman and Neuendorf, 1981; Lowry, Love and Kirby, 1981). Most sex on television takes place between unmarried partners (47% in the Fernandez-Collado and Greenberg, 1978, study) and sex with prostitutes is next most likely (28%). Intercourse between married partners and rape are equally infrequent at about 6%. The highest ratio of unmarried-to-married intercourse (17:1) was found in programs aimed primarily at children. Sex education or mention of contraceptives is rarely part of television programming and, when seen or discussed, it is usually in a humorous context (Sprafkin and Silverman, 1981).

There is some evidence that these television portrayals may be having some

impact on viewer perceptions and attitudes relating to sexuality. Buerkel-Rothfuss and Mayes (1981) have found that viewers of soap operas estimate greater proportions of people as having had extra-marital affairs, illegitimate children, abortions, and divorces than people who don't watch soap operas. Other studies have demonstrated a connection between the frequency of television viewing and dissatisfaction with virginity (Courtright and Baran, 1980; Baran, 1976a, 1976b). These studies are only correlational, however, and thus the direction of the effect cannot be specified. Indeed, it could be that dissatisfied virgins and people with distorted sexual world views watch more television in general, and soap operas in specific, than does the rest of the population.

Much of the work done on television's effects on viewer behavior has been based on fundamental principles of social learning theory as developed by Bandura and Walters (1963). This theory suggests that observed behaviors may be imitated and that the probability of such imitation is proportional to the subjectively held expectancy that the behaviors will be reinforced, depending on the value of the reinforcement to the individual. Although the disinhibition of sexually significant responses and increases in sexual behaviors has been experimentally demonstrated using sexually explicit stimuli (Schmidt, 1975), application of these results to the largely implicit stimuli of televised sex is not direct. Sexual intercourse could not be modeled directly from television because intercourse is not shown. Rather, the behaviors which (television portrayals suggest) lead to intercourse might be modeled. Further, television may influence premarital sexual behavior in particular by increasing the expectancy that such behavior will be rewarded, or by decreasing the expectancy that it will be punished. Portraying premarital

intercourse in a positive light may serve to remove inhibitions against such behavior. Bauman and Udry (1981) have found that adolescents who expect positive consequences from sexual activity are more likely to have engaged in a variety of sexual activities ranging from holding hands to petting and are more likely to have had sexual intercourse.

Courtright and Baran's finding (1980) that television use correlates with dissatisfaction with virginity among high school and college students is supportive of the notion that television portrayals of premarital sex as positive and normal may cause adolescent virgins to feel deprived or left out. Such portrayals also apparently tend to increase the value of sexual experience as a reinforcer above the level which it holds otherwise. This is suggested by Baran's finding (1976a) that those students who reported that they thought television portrayals of sexual behavior were accurate were more likely to be dissatisfied with their first experience of coitus.

Hypotheses

In this study we look at three sets of interrelationships relevant to the question of the effect of television on adolescent sexual behavior. First, we will examine the relationship between the frequency of viewing television high in sexual content and the adolescent's perceptions of the <u>probability</u> and <u>liking</u> of positive and negative consequences of sexual behavior. Following from Courtright and Baran's work (1980), it is expected that adolescents who view greater amounts of television rated high in sexual content will expect more positive consequences from their own sexual activity. Similarly, it is expected that adolescents who are frequent viewers of sexual content will report less disliking of potential negative consequences and greater liking for

potential positive consequences of their own sexual activity. According to Fishbein and Ajzen (1975), these expectations also should be related to behavioral intentions -- in this case, the adolescent's motivation to have intercourse. If this is the process through which television affects adolescent sexual behavior, we would expect television viewing to be related to perceived consequences and perceived consequences to be related to intention to have sex and to subsequent sexual behavior.

It also has been suggested that the more general mechanism of television's effect on adolescent sexual behavior is through decreased impulse control (Nystrom, 1983). Television portrayals of instant gratification, especially in advertising, may affect the viewer's need for satisfaction of sexual desires. This suggests that adolescents who are less willing to delay gratification will be more likely to engage in sexual intercourse. Similarly, we would expect less sexual experience the greater the adolescent's future orientation (i.e., concern for what they will be like or what will happen to them in the future rather than in the present).

Second, we will examine the relationship between the adolescent's expectations of consequences and his or her sexual behavior. Bauman and Udry (1981) studied such a relationship with a combined measure of these consequence variables. We expect that greater expectation and liking of positive consequences will be positively related to more frequent sexual activity.

Third, we will examine the direct relationship between viewing of sexual content on television and the adolescent's level of sexual activity, while controlling for the effects of perceived consequences, intent, willingness to delay gratification and future orientation. While this relationship has never been directly tested, previous research suggests that we might expect that more

viewing of sexual content on television will lead to a greater frequency of sexual activity among adolescents, even beyond effects mediated through perceptions of consequences, future orientation, and ability to delay gratification, through the modeling of intimate behaviors that are precursors of intercourse.

Throughout these analyses some of the other factors which may affect the relationship between television viewing and subsequent sexual behavior will be considered. Teddlie, et al. (1979) argue, for example, that biological factors affect an adolescent's sexual behavior in three ways: motivational level (libido), self-perception as a potentially sexually active person, and sexual attractiveness (identification by others as an appropriate and desirable sexual partner). Preliminary analysis of the data set used in this study by Udry and his colleagues (1983) at the Carolina Population Center have shown that self-ratings of pubertal development predict, for both white and non-white males and females, the level of non-coital sexual experience and whether or not the adolescent has had intercourse. The pubertal development variables were also found to be better predictors of sexual behavior than age, and predict experience with statistical significance even when the effect of age is controlled for.

We also know that age (and possibly pubertal development -- see Faber, Brown and McLeod, 1978) is related to the amount and kind of television viewed. As adolescents grow older the amount of television they view decreases. At the same time the amount of adult-oriented fare they view increases (Comstock et al., 1978). Race is also related to television viewing: black teenagers have been found to view more than white teenagers (Greenberg and Dervin, 1970). And audience surveys have consistently shown female teenagers to view more

television than male teenagers (Nielsen, 1981).

Race and sex also are related to incidence of sexual behavior. In general, black males report earlier and more frequent sexual experience, including intercourse, than any other group (Zelnik and Shah, 1983). White females are the least likely group to have had intercourse and report less sexual experience (Teddlie, et al., 1979). Admittedly, some of the differences may be due to problems of the validity of self-report measures, as has been discussed by Zelnick and Kantner (1978a) and Rodgers, et al. (1980), but the consistency of the estimates across a number of studies of various populations suggests that, at the least, this type of estimate has some reliability.

Finally, it must be noted that we will be able to look only at cross-sectional relationships here. While the data are part of a longitudinal study, and we are able to include some measures from a previous wave of the study, the measures of television use were included in only the final wave. We cannot, therefore, infer the direction of the causal sequence. Again, as with the other correlational studies discussed above, it is plausible to explain correlations between television viewing and behavior as resulting from viewer selection rather than content effect since we cannot control for time order. The relationships must be viewed with this limitation in mind.

SAMPLE AND MEASURES

The data used in this analysis were taken from the second and third waves of a three-wave panel study of adolescent sexuality conducted by the Carolina Population Center at the University of North Carolina. The population for the

study was the entire student body of a junior high school in an urban area in North Carolina. In order to obtain data with the highest possible reliability from a normally unreliable population on a very sensitive subject, the questionnaires were filled out by the individual students in their own homes in the presence of an "interviewer." Parental and respondent permission was obtained beforehand and parents agreed that the child's answers would remain confidential. In general, parents and children were extremely cooperative and parents allowed the children to complete the questionnaires in private. Of 639 eligible students in the school, 520 participated in the first wave of the study in Fall 1978. As part of the third wave of the study in Spring 1981, the 391 remaining students filled out a set of media use questions as well as the same set of questions about their sexual attitudes and behaviors.

Because of the significant differences between races in television viewing and sexual behavior, the few students who were neither black nor white were dropped from the analysis. Respondents who failed to answer the first question on whether or not they had ever had sex (18 in Wave 3) were not included in the analysis. In addition, those repondents who gave extreme answers on the questions on sexual activity also were dropped. Specifically, those who stated on either the second or third wave that they had had sex 98 or more times in the last month (1 respondent in Wave 3) or with 14 or more partners (2 respondents in Wave 3) or that they had ever had sex with 28 or more partners (5 respondents in Wave 3) or sex with their first partner more than 25 times (1 respondent in Wave 3) were not included in the analysis. While these exclusions do reduce the sample size (66 were not included from Wave 2 and 56 were not included in Wave 3), they seem necessary for two separate reasons. First, some of the most extreme of these responses are not credible. Second,

even if accurate, by their very extremity these responses would bias the analysis. With least squares procedures, observations are weighted, in effect, by the square of their deviations from the mean. If these observations were retained in the analysis, they would have influenced the results far beyond their number.

Since this is not a national probability sample, generalizations must be made with caution. The sample is drawn from a diverse area, however, and includes a sizeable (36%) proportion of non-whites. Males made up 41% of the final panel. The respondents ranged in age from 14 to 18 years with the average age of just over 15 years in the final wave. Some validation of the sample is provided when it is compared with a 1979 national probability survey of young women aged 15-19 and young men aged 17-21 living in households in metropolitan areas in the United States (Zelnik and Shah, 1983). In our slightly younger sample, 39% of the women reported having had sexual intercourse as compared to 50% of the women in the national study. While this apparent underreporting may be in response to demand characteristics, it might also reflect accurate reporting in a southern city for this younger group. In the national study only 19% of the white females reported having had intercourse before they were 15 years old. In our sample of younger men, 69% reported having had intercourse as compared with 70% of the men in the national study.

Dependent Measures

The primary dependent variables used in this study are measures from the third wave of the panel. Consequences of sexual behavior were measured by

asking students to report the perceived probability and the expected liking of 20 possible positive and negative consequences of having sex. Perceived probability was measured on a scale from 1 to 5 where 1 signified that it "would happen for sure" and 5 signified that the adolescent was "sure it wouldn't happen." Expected liking was measured on a 1 to 4 scale where 1 signified that the respondent "would like it very much" and 4 signified that the respondent "would dislike it very much." These indexes were reverse coded during analysis to represent liking and probability and they are scaled in that direction in the tables.

While it was expected that these 20 items would form a unidimensional bipolar scale of subjective expected utility as developed by Bauman and Udry (1981), a factor analysis of the third wave data indicated a more complex structure. As Table 1 illustrates, there are three distinct factors, which have been labeled "positive," "negative" and "parent negative." The structure of the factors is parallel for the two separate series of expected liking and perceived probability questions. Given this empirical evidence of a multidimensional structure, it seemed most appropriate to enter these variables as two sets of three factors. Factor score variables were created from the raw data using scoring coefficients produced from the factor analysis.

Table 1 about here

The dependent measure of sexual activity also was created using factor scoring coefficients after factor analysis of eight items measuring frequency of sexual intercourse indicated a single factor. These eight items and their factor loadings are presented in Table 2.

Table 2 about here

Independent Variable Measures

The primary independent variable, sexy television viewing was constructed by summing across the respondent's reported viewing frequency for each of 67 current prime-time and afternoon television shows, weighting each show according to its length (in increments of 30 minutes); the frequency with which it is broadcast (daily or weekly); the frequency with which the respondent reported viewing (0=Never; 1=Some weeks/days; 2=Most weeks/days; 3=Every week/day); and by a rating of its sexual content. The rating of sexual content was made by 34 independent judges (university students in a senior-level communications class), who rated each program they were familiar with on a three-point scale (0=Not sexy; 1=Sometimes sexy; 2=Very sexy). The "sexiness" rating for each program consists of the average of the scores of all the judges rating that program.

There are two separate indications that such an approach for measuring exposure to sexual content on television can give meaningful results. Sprafkin, Silverman and Rubinstein found in a study of reactions to sex on television that for the majority of intimate behaviors "there was a high degree of correspondence between objective and subjective ratings" (1980, p.308). Further, the composite reliability across raters (Holsti, 1969, p.137) even when computed using Scott's pi, (p.140) a conservative measure that assumes only nominal categories, was high with a median reliability of .954 and mean

reliability .941.

While it may be justified to use simple measures of frequency of viewing television, previous studies on the effect of violent television content suggest that this more precise measure of the frequency of viewing sexually relevant television is more appropriate. The work of McLeod, et al. (1972), for example, has shown that total viewing time is a rather weak predictor of anti-social aggressive behavior while much stronger relationships are found using an aided recall in the form of a program check list along with a weighting for the frequency of violent acts for each show. (Milavsky, Kessler, Stipp and Rubens, 1982, also use this kind of weighted measure in their study of television and aggression.)

In this study we will use this "total sexual television viewing" measure as well as a measure we have labeled "selected sexual television viewing." This second measure of viewing was created by dividing the respondent's score on total sexual television viewing by the respondent's frequency of viewing the 67 listed shows (as weighted by length and frequency of presentation). This measure was conceptualized as assessing the extent to which an adolescent seeks out sexual content when watching television. It is expected that this measure of selective television viewing may be more highly related to expected consequences and sexual behavior since the adolescent is apparently viewing this kind of content for some reason and thus the content may have more effect. While not often studied, this motivation-effect connection is the underlying assumption of uses and gratifications research (see Katz, Blumler and Gurevitch, 1974). It is included here primarily in an exploratory sense to see if it can aid in explanation of relationships.

Subgroup analyses of the simplest measures of television viewing (as shown

in Table 3) correspond nicely to national norms. In order to assess average time spent viewing television in general, respondents were asked to report, on a time line, the usual number of hours they spent viewing television on a "typical school day" and a "typical Saturday." The hours circled for the typical school day were multiplied by five and added to the hours specified for the typical Saturday. (The measure, therefore, does not include any estimate of viewing on Sundays).

As found in other studies, blacks report higher levels of overall television viewing, with black females ranking highest among the four groups, at an average of almost six hours hours per day. White males report the lowest levels of viewing, at an estimated average of three hours per day. When programs are ranked in terms of their average frequency of viewing, it is clear that adolescent viewing extends beyond the family viewing hour. White males, especially, report a high frequency of viewing late night movies and entertainment programs such as "Saturday Night Live." Adolescent girls, on the other hand, are apparently rushing home from school to catch the latest episode of "General Hospital," which was rated in one recent content analysis as the "sexiest" of the soaps (Lowry, Love and Kirby, 1982). It also is interesting to note blacks report more frequent viewing of "black-oriented" shows such as "Good Times" and "The Jeffersons" than whites.

Table 3 about here

Control Variable Measures

Control variables entered in the analysis models included race and sex, which were coded as binary variables, and chronological age. In addition to these demographics, several variables were controlled for, including respondent's subjective estimate of physical maturity, future orientation, willingness to delay gratification and intention to have sex -- all measured in the second wave. The estimate of physical maturity was measured on a six-point scale where 1 was labeled child and 6 adult. The other three were measured by multiple indicators of single factors. (See Appendix A for synopses of questions and factor loadings.) Finally, factors of the consequence measures and sexual activity as measured in the second wave of the study were used as controls. (Note 1) (See Appendix B for factor loadings of second wave consequence factors.) Since we have the second wave measures of both the consequence variables and the frequency of intercourse we can control for the effect of previous levels. This, in effect, makes the dependent variables change scores, so we are examining the relationship of television viewing and the change in sexual perceptions and behavior. Since we do not have media use measures at both time points we cannot, unfortunately, assess the extent to which television causes these changes. If relationships are found, they may indeed indicate a reverse causal sequence, i.e., sexual activity causes adolescents to view more sexually-oriented television rather than vice versa.

RESULTS

In order to examine our first question -- whether television viewing is

related to expected consequences of sexual behavior -- the three factors of perceived probability of consequences and expected liking of consequences as measured on Wave 3 were regressed on both measures of sexual television viewing as measured on Wave 3. Controls included consequence of sexual activity measures from Wave 2 as well as the other psychological and demographic variables as discussed above. The results of these analyses for each of the four race and sex groups and for the total sample are presented in Tables 4 and 5.

Tables 4 and 5 about here

In general, while the overall variance explained (R squared) is statistically significant for each of the models tested, the individual beta weights for the consequence factors are uniformally low. Only seven of the 48 betas presented are statistically significant at the .10 level of probability. At this level we would expect about five statistically significant relationships simply by chance. Certainly part of the problem is the small sample size within the race and sex subgroups, especially for black males where a number of the betas are relatively large but do not achieve statistical significance.

Overall, however, the results of this set of analyses suggests that there is little connection between watching sexual content on television and an adolescent's expectation of the likelihood or the desirability of sexual activity. Only for black males do we see any sort of consistency in

relationships where, apparently, television viewing is related to greater perceived probability of both negative and positive consequences and greater expected liking of positive consequences.

While these results are generally unspectacular, the proportions of variance explained at the least suggests that the measures used in the analysis are reliable and, when taken together, are relevant for an understanding of how adolescents develop expectations about consequences of sexual behavior. Viewing sexual content on television, however, does not appear to be one of the more important factors.

Similar analyses were conducted to address our second question: whether these expected consequences, however derived, are related to an adolescent's frequency of sexual activity. For the total sample, a statistically significant ($p=.07$) yet small beta of .08 was obtained for the relationship between the expected probability of positive consequences and frequency of intercourse, as was hypothesized. Subgroup analyses showed that this result held for all but the white female subgroup.

Finally, while controlling for the effect of these expected consequences (as well as a number of other variables described above), the relationship between viewing sexual content on television and the frequency of sexual activity was examined. These results are presented in Table 6. Again we find a significant proportion of variance explained for each of the models predicting sexual activity, but a large portion of this explained variance comes most directly from the previous wave's level of sexual activity. (Note 2) Still, it appears from this table that, at least for the black adolecents in the sample, viewing sexual content on television is related to level of sexual activity. These relationships, however, are different for males and females

and the direction of the relationship is different for the two measures of sexual television viewing.

Table 6 about here

Specifically, the beta weights obtained for the black females suggest, as was predicted, that actively seeking sexually-oriented television content is related to more frequent sexual activity. Unexpected, however, is the finding that viewing sexual content on television in general is related to less frequent sexual activity. It also is surprising that the opposite pattern of relationships is found for the black males. None of these relationships is significant for the white subgroups or for the sample as a whole.

While it is unclear from these data exactly why such different patterns exist for these two groups, it appears that viewing sexually-oriented television is related in some way to the sexual activity of this sample of adolescent black males and females.

DISCUSSION

We have examined the interrelationships of three sets of variables that are relevant to the study of the effect of television on adolescent sexual behavior. While the results are not as clear as one might hope, they do suggest that further research on the topic is warranted.

First, to summarize the findings of this analysis: the adolescents in our sample report watching an average of about three and three quarter hours of television per day. Many of their top-rated shows have been found, through content analysis of program categories and the ratings by the judges in our

study, to contain a great deal of sexually-oriented content. The blacks in our sample spend more time watching television, on the average, than the whites and the girls watch more than the boys. These findings are consistent with national studies.

When we considered the relationship of television viewing to the viewer's own behavior, we looked first at whether viewing sexually-oriented television is related to the adolescent's perceptions of likely or desirable consequences of having sexual intercourse. Previous research suggested that this was a mechanism which might explain how television affects sexual behavior. Since actual intercourse is almost never portrayed on regular television it is difficult to hypothesize a direct modeling effect of television viewing. Unfortunately, however, results of the test of this perceived consequence explanation are not strong. Consistent relationships between television viewing and expected consequences were found only for the black males in the sample. It is difficult to understand why such a mechanism holds only for this subgroup.

A brief look at the link between perceived consequences and sexual behavior did provide support for the idea that such perceptions are predictive of subsequent sexual activity, though only weakly. The relationship between the probability of liking positive consequences and frequency of sexual intercourse held for all but the white female subgroup. However, since our primary interest here is in the effects of television, and since we found so little connection between television and perceived consequences, this tie between consequences and behavior is of less interest.

Since it appeared that television's effect was not primarily through changing perception of consequences for the majority of the sample, we tested

the direct relationship of television viewing and sexual behavior. Here again we found relationships for the black males and this time for the black females as well. Again, however, no relationships were found in the white subgroups. From these analyses it appears that there is some relationship between the amount and proportion of sexual content viewed on television and an adolescent's frequency of sexual intercourse. The pattern of these relationships is unexpected, however, and appears to work differently for males and females.

We expected that, if a relationship existed between viewing sexually-oriented television and sexual behavior, it would be a positive one. The explanation for such a finding, given the lack of explicit portrayals of intercourse on television, could be that adolescents are modeling all those behaviors that are portrayed that lead up to actual intercourse and thus end up having intercourse as well. That kind of explanation might be used to interpret the positive relationships found here between sexual activity and selected sexually-oriented viewing for black females and total sexually-oriented viewing for the males.

We have had at least anecdotal evidence ever since the Payne Fund studies in the 1930's that adolescents use film portrayals as lessons in the preliminaries of lovemaking. One white male college senior, for example, told Blumer (1933): "The technique of making love to a girl received considerable of my attention, and it was directly through the movies that I learned to kiss a girl on her ears, neck, and cheeks, as well as on the mouth." (p.47) Today "making love" means more than kissing and hugging but those are still the behaviors that lead up to today's "making love" and can be imitated from what is seen today on television.

On the other hand, we have found negative relationships between frequency of sexual behavior and selected sexual viewing for black males and total sexual viewing for the black females. While unexpected, we might explain this finding as support for a substitution hypothesis. These adolescents appear to be watching sex on television rather than engaging in sex themselves, or it could be that the more sexually active have less time to be watching television. We must be careful to remember that these are only correlational data and, since we do not have measures of media use at two time points, we can not say in which direction the influence flows. It could be that frequent sexual behavior causes greater use of sexually-oriented television rather than vice versa, as in the case of the black males. Similarly, less sexual activity could cause more frequent viewing of sexually-oriented television rather than vice versa. It may be that the socially, and sexually, inactive adolescents substitute other behaviors, including television, to occupy their time. But this explanation holds best for total viewing and not for selection, since selection is independent of time spent viewing.

We still are left with the questions of why there is no evidence of relationships for whites, and why we find opposite patterns between black males and females. On the first question, we do get some indication from the set of control variables (not shown in the tables) that expectations of negative consequences are stronger and more consistent for whites than for blacks. For white females, for example, the possibility of negative consequences was a significant negative predictor of frequency of intercourse in each of the television measure models. The same relationships held for the white males but did not reach significance for the black males and females. This suggests that other factors in the adolescent's environment besides television may be more

important for the whites than for the blacks. These differences call for further exploration, within race and sex subgroups, concerning the way adolescents learn different expectations about the outcomes of sexual behavior. If these expectations are not being learned from television they are probably being learned from friends, the church, parents or other media. And we do know from these data that these expectations are related to the frequency of sexual behavior.

The lack of findings for the white females, especially, also may be due to lack of variance in the dependent measure. The white females in the sample were the least likely to have had intercourse on Wave 3 and, with the Wave 2 measure in as a control, the resultant change score may have been too stringent a test of relationships. Future research should look at other, less dramatic evidence of effects, such as incidence of activities leading up to intercourse, or more general attitudes toward women as has been suggested by the studies of the effects of pornography.

In conjunction with this, though, we need content studies which can tell us more about the context and the outcomes of the sexual portrayals on television. Certainly, as more currently forbidden material gets on the cable channels, the stimulus will be more similar to those used in studies of erotic and pornographic material. But it is not clear at this point whether current television fare is as demeaning to women's sexuality as off-television content has been found to be.

And what about the differences between black males and females? These unexpected opposite patterns of relationships for the males and females may be real, or they may be artifactual. The black male data are consistently the most unreliable, and most extreme, in the data set and, as a result, we have

eliminated a large portion of the black male sample from the analysis. The final model we are testing here includes some 20 different variables. With only 37 black males as the sample, these relationships must be viewed with some trepidation. We, therefore, would place greater faith in the relationships found for the black females. This does not mean that these relationships should be ignored, but it does suggest that better and larger samples of black male adolescents are needed before any firm conclusions can be drawn. In the meantime, it does appear television and sexual behavior are related in some way for black adolescents.

In sum, while overall results are not quite as we hypothesized, they are intriguing and raise important questions for future research on the possible effects of television on adolescent sexuality.

NOTES

1 The factor structure for the second wave consequence questions is not strictly parallel to the factor structure of the third. (See Appendix B). While the positive consequences factor is almost identical between waves and across probability and liking, the negative and parent negative factors have a different organization. For perceived probability there appears to be a simpler, two-factor structure, with a positive and a negative factor. For expected liking there are still two negative factors but they are not the same as in the third. These factors could be personal negative and social negative factors, although this is not entirely clear. The differences between the structures at the two times suggest that the structure of perception of the consequences of sexual activity are changing during this period, perhaps as a result of personal experience.

2 Using the square of the standardized regression coefficient for sexual activity measured in the second wave as a measure of contribution to variance explained, it appears that previous sexual activity explains about 47% of the variance in sexual activity in the third wave. This figure is somewhat inflated since some of the measures of sexual activity are cumulative. The more significant figure is that the other variables explain about 27% of the variance, beyond the contribution of second wave sexual activity.

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TABLE 1: FACTOR LOADINGS OF CONSEQUENCE VARIABLES (WAVE 3)

Consequence	Expected Liking			Perceived Probability		
	Positive	Negative	Parent Negative	Positive	Negative	Parent Negative
Feeling More Loved	.788	-.225	.167	.757	.072	-.093
Having Girl (or Boy) Like Me More	.786	-.136	.235	.698	.035	-.122
Making Girl (or Boy) Feel Good	.852	.029	-.016	.467	.075	.205
Showing I Like Her (or Him)	.757	-.012	.171	.749	.025	.009
Getting a Good Physical Feeling	.854	-.002	-.132	.667	.114	.006
Being Excited	.761	.175	-.221	.574	-.318	.042
Satisfying My Curiosity	.768	.104	-.165	.566	.165	-.010
Liking Girl (or Boy) More	.841	.081	-.024	.718	.087	.045
Being Embarrassed	-.024	.692	-.070	-.016	.767	-.099
Having Parents Find Out	.063	.699	.087	.021	.741	-.099
Losing Respect of Friends	-.016	.668	-.045	-.068	.764	.023
Losing Respect for Self	-.022	.518	.247	-.043	.699	.201
Worrying About Pregnancy	-.028	.646	.087	.186	.446	.229
Hurting My Health	-.182	.396	.351	-.016	.660	-.122
Having Others My Age Find Out	.268	.448	.130	.196	.485	.101
Feeling That I Sinned	-.038	.400	.351	-.016	.626	.171
Feeling Pain	.072	.270	.349	-.077	.312	.266
Making Parents Feel Unhappy	.087	.016	.741	.028	-.077	.902
Making Parents Mad	-.046	.207	.650	-.027	.037	.876
Being Punished	-.019	.013	.833	-.018	.133	.643
Percent of Variance Explained	**26.6**	**19.5**	**17.3**	**21.1**	**18.3**	**14.3**

Note: These factors were derived using the principal axis method with varimaxpre-rotation and a promax (oblique) final rotation. Since there was a fairly consistent pattern of a substantial drop in eigenvalue between the third and fourth factor, three factors were retained in the final analysis.

TABLE 2: Factor Loadings of Sexual Activity Factor

Sexual Activity

Have you ever had sex with any other boy (or girl)?	.906
Have you ever had sex with a boy (or girl)?	.901
Have you ever -- had sex?	.813
Did you ever have sex with a boy (or girl) you already knew well before you had sex with him (or her)?	.781
How many different girls (or boys) (counting the first one) have you ever had sex with	.752
How many different boys (or girls) did you have sex with in the last month?	.744
How many times did you have sex in the last month?	.636
How many more times did you have sex with him (or her) after the first time?	.537
Percent of Variance Explained	58.9

Table 3: Television viewing by race and sex groups

	Black Females (N=59)	$\bar{X}$	Black Males (N=37)	$\bar{X}$	White Females (N=99)	$\bar{X}$	White Males (N=74)	$\bar{X}$
Daily TV hours (Mon.-Sat.)*		5.91		4.36		3.30		2.97
Total Sexy TV**		263		198		173		121
Selected Sexy TV**		1.05		0.99		1.14		1.02
Most frequently viewed shows								
(1=never; 2=some	General Hospital	3.47	White Shadow	2.98	General Hospital	3.18	MASH (weekly)	2.83
weeks/days; 3=	Good Times	3.43	Dukes of Hazard	2.96	Sun. Night Movie	2.46	MASH (daily)	2.41
most weeks/days;	White Shadow	3.39	The Jeffersons	2.93	Love Boat	2.45	Sun. Night Movie	2.39
4=every week/	Dallas	3.28	Incredible Hulk	2.89	Sat. Night Live	2.43	Sat. Night Live	2.32
day)	The Jeffersons	3.16	Good Times	2.77	MASH (weekly)	2.40	Sat. Night Movie	2.30

Note: *The measure of daily TV hours was based on respondent's estimation of how many hours of television he/she viewed on the "typical school day" (multiplied times 5) plus the number of hours estimated for the "typical Saturday." This sum was then divided by 6 (days) to obtain an estimated average number of hours viewed per day.

**Total Sexy TV is a weighted score of 67 shows. Respondents were asked to tell how often they watched each of the shows. Each show was judged according to its perceived "sexiness" by a group of college students and was weighted according to its usual length and frequency of presentation. The total mean for the measure was 182 with a standard deviation of 85.

Selected Sexy TV is a ratio of the Total Sexy TV score divided by the respondent's frequency of viewing the 67 listed shows (as weighted by length and frequency of presentation). The mean for this measure was 1.06 and the standard deviation .134.

Table 4: Standardized beta weights of sexy television viewing and perceived probability of consequences of sexual behavior

	Black		White		Total	
	Females	Males	Females	Males		(R^2)*
N=	(59)	(37)	(99)	(74)	(269)	
Total Sexy Television viewing and						
Perceived Probability of:						
a. Negative consequences	.127	.214	-.052	-.008	.054	(.276)
b. Positive consequences	.128	.368*	.041	.008	.068	(.179)
c. Negative parent consequences	-.012	.218	.073	.154	.105	(.235)
Selected Sexy Television viewing and						
Perceived Probability of:						
a. Negative consequences	-.217	.344*	-.107	.195*	.001	(.278)
b. Positive consequences	.012	.372*	.015	.042	.025	(.223)
c. Negative parent consequences	.017	.047	-.057	.007	-.036	(.240)

* p. $\leq$.10, F-test; The R^2 (variance explained) is statistically significant at p.$\leq$ .001 for each of the models.

Note: Control variables entered in each equation included: Consequence factors, sexual activity, future orientation, intent to have sex, delay of gratification, physical maturity and age as measured in the previous wave. Race and sex were included as control variables in the model for the total group.

Table 5: Standardized beta weights of sexy television viewing and expected liking of consequences of sexual behavior

	Black		White		Total	
	Females	Males	Females	Males		$(R^2)^*$
N=	(59)	(37)	(99)	(74)	(269)	
Total Sexy Television viewing and						
Expected Liking of:						
a. Negative consequences	.248*	-.036	.094	.136	.153*	(.333)
b. Positive consequences	-.011	.131	.003	.047	.024	(.390)
c. Negative parent consequences	.155	.054	.066	-.048	.096	(.217)
Selected Sexy Television viewing and						
Expected Liking of:						
a. Negative consequences	.062	.214	.080	.035	.068	(.322)
b. Positive consequences	.100	.383*	-.002	-.036	-.000	(.390)
c. Negative parent consequences	.009	.022	.109	-.051	.012	(.211)

*$p. < .10$, F-test; The R^2 (variance explained) is statistically significant at $p. < .001$ for each of the equations.

Note: Control variables entered in each equation included: Consequence factors, sexual activity, future orientation, intent to have sex, delay of gratification, physical maturity and age as measured in the previous wave. Race and sex were included as control variables in the equations for the total group.

Table 6: Standardized beta weights of sexy television viewing and sexual activity

	Black		White		Total	
	Females	Males	Females	Males		$(R^2)^*$
N=	(59)	(37)	(99)	(74)	(269)	
Total Sexy Television viewing and						
Sexual activity	-.187**	.165	.016	.029	-.020	(.740)
Selected sexy television viewing and						
Sexual activity	.147*	-.187*	-.064	-.083	-.028	(.740)

* p. < .10, F-test; The R^2 (variance explained) is statistically significant at
** p. < .001 for both of the equations.
* p. < .05, F-test

Note: Control variables entered in each equations were the same as those described for equations presented in Tables 4 and 5 with the addition of simultaneous measures of the consequence factors.

APPENDIX A: FACTOR LOADINGS OF UTILITY VARIABLES (WAVE 2)

Consequence	Expected Liking			Perceived Probability		
	Positive	Negative	Parent Negative	Positive	Negative	Parent Negative
Feeling More Loved	.813	.104	-.016	.694	.040	.246
Having Girl (or Boy) Like Me More	.830	.038	.028	.689	.117	.238
Making Girl (or Boy) Feel Good	.866	-.060	.026	.530	.133	-.023
Showing I Like Her (or Him)	.859	-.033	.102	.663	.228	.091
Getting a Good Physical Feeling	.849	-.057	-.044	.772	.042	-.104
Being Excited	.855	-.010	.039	.770	-.146	.006
Satisfying My Curiosity	.792	-.006	-.058	.598	.157	-.159
Liking Girl (or Boy) More	.882	.052	.012	.756	.096	.113
Being Embarrassed	.005	.512	.257	-.115	.600	.302
Having Parents Find Out	-.010	-.139	.809	-.188	.564	.371
Losing Respect of Friends	-.031	.311	.504	-.267	.707	.178
Losing Respect for Self	-.077	.366	.285	-.166	.742	.181
Worrying About Pregnancy	.070	.831	-.246	.246	.624	-.053
Hurting My Health	-.054	.673	.094	-.120	.594	.318
Having Others My Age Find Out	.166	-.068	.631	.111	.591	.075
Feeling That I Sinned	.044	.690	-.102	-.188	.681	.115
Feeling Pain	.062	.679	.079	-.016	.506	.029
Making Parents Feel Unhappy	-.012	.477	.462	.094	.676	-.506
Making Parents Mad	-.011	.427	.463	.036	.688	-.532
Being Punished	-.062	.601	.123	-.042	.661	-.410
Percent of Variance Explained	**28.9**	**21.3**	**16.2**	**22.3**	**20.4**	**17.8**

Note: See Table 1 for a description of the method of factor analysis. Also see text Note 1.

APPENDIX B: FACTOR LOADINGS OF PSYCHOLOGICAL CONTROL VARIABLES

Future Orientation

How often do you think about what your life will be like one year from today?	.892
How often do you think about what it will be like to be 21 years old?	.865
Are you more concerned with what happens to you in the present or with what happens to you in the future?	.368
Percent of Variance Explained	**56.0**

Delay of Gratification

Would you rather have a 25 cent candy bar right now or two 25 cent candy bars tomorrow when you are just as hungry as you are right now?	.726
Which would you pick: $10 right now, $14 in 1 month, $18 in 3 months, $22 in 6 months, $28 in 1 year?	.745
If someone gave you $50 and you didn't have anything you needed to spend it on, would you spend it right away, or save it until you needed something?	.477
Percent of Variance Explained	**43.7**

Intention to have Sex

How likely is it that you will have sex in the next year?	.842
How much do you think you would like to have sex in the next year?	.875
Do you intend to have sex during the next year?	.879
Percent of Variance Explained	**75.0**

Note: Each of these control variables loaded on a single factor using the principal axis method of factor analysis.